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**Cover photo**  
A View of Ankara, 18th century, Rijksmuseum A2055, Amsterdam. See Gary Leiser, Travellers' Accounts of Mohair Production in Ankara from the Fifteenth through the Nineteenth Century, pp. 5-34.

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Authors are invited to submit manuscripts based on original research of a documentary, analytical, or interpretive nature. Acceptance of manuscripts for publication is based upon peer review. Articles should be both scholarly and accessible to a broad readership.

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## The Textile Museum

The Textile Museum is dedicated to furthering the understanding of mankind's creative achievements in the textile arts. As a museum, it is committed to its role as a center of excellence in the scholarly research, conservation, interpretation, and exhibition of textiles, with particular concern for the artistic, technical, and cultural significance of its collections. This mission is pursued through development and maintenance of collections, records, and a library, as well as through scholarly research, exhibitions, publications, and educational programs.

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# Travellers' Accounts of Mohair Production in Ankara from the Fifteenth through the Nineteenth Century

Gary Leiser

Dedicated to the Memory of  
Schuyler V.R. Cammann

"You i' the camlet, get up o' the rail"  
Henry VIII, Act V, Scene 4, Line 93

The origin and history of many important textiles that were produced before the modern era are often difficult to trace because of a lack of written documentation. When written records are available, they usually shed light on the economic significance of a textile rather than on where or how it was made. One type of textile for which we are fortunate to have a number of written sources, and even a visual portrayal, concerning both its economic importance and its technological development over many centuries is cloth made from mohair, the hair of the Angora goat.<sup>1</sup>

Based on research in the Ankara religious court archives (*şer'i mahkeme defterleri* or *kadi sicilleri*), two Turkish scholars have recently published work on the significance of mohair to the economic

prosperity of Ankara, long the center of its production, in the sixteenth and seventeenth centuries. The data in these archives primarily concern fiscal or legal matters.<sup>2</sup> For technology we can turn to the reports of travellers, mostly Europeans, who visited Ankara between the fifteenth and twentieth centuries. From their varied descriptions of the economic life of the city, we can extract a unique and generally neglected account of mohair. These descriptions are sometimes quite detailed. Together they provide a rich source for our understanding of the technology and the history of mohair cloth in Ankara over a four hundred-year period. They offer a wealth of information about the Angora goat and its products; methods of "shearing" and spinning; processes of weaving, watering, pressing, and dyeing; types and qualities of mohair cloth; the history of the industry and trade.

### Origin of the Angora Goat

There was no mohair, of course, without the Angora goat. There are several theories about the origin of this special animal.<sup>3</sup> One theory simply maintains that the Angora goat was a species indigenous to central Anatolia.<sup>4</sup> Another holds that this goat originated in Central Asia and was brought from there to the region of Ankara by nomadic Turkish tribes in the Seljuk period, that is, the twelfth or thirteenth century.<sup>5</sup> Finally, it has been suggested that this goat appeared over time from mutations in ordinary flocks of goats and that it was purposely bred by the Ottomans, beginning in the fifteenth century.<sup>6</sup>

The reason there are so many theories is that the evidence—zoological, archeological, and historical—for the presence of the Angora goat, and textiles made from its hair, in central Anatolia before the fourteenth century A.D. is inconclusive.

Complete skeletons of goats, or any other domesticated animals, dating from prehistoric, ancient, or even medieval times have rarely survived in Anatolia. Furthermore, most bones of a goat resemble those of a sheep. More important, the only way the skeletons of different species of goats can be distinguished is by their horns, which are either straight or curled.

# Large Tree-and-Animal Carpet of the 'Herat' Group, Persia, 16th Century

Christine Klose

In 1951 The Textile Museum, Washington, D.C., acquired a remarkable carpet fragment, the lower part of what was once a large carpet (fig. 1).<sup>1</sup> Although high quality design and craftsmanship are evident, this fragment is too small by itself to permit accurate reconstruction of the central field. The location of a previously unrecognized matching fragment now enables a complete view of the original, and analysis of the symmetry allows a full reconstruction. The fragment from the Convento da Madre de Deus in Lisbon is now in the Museu Nacional de Arte Antiga, Lisbon (fig. 1, central part). The upper part has been cut off, its current location unknown.

Photographs of the Washington and Lisbon fragments fitted together show clearly that the two parts meet exactly along a wavy cut<sup>2</sup> with no piece missing. Due to the symmetrical pattern, the upper end, now lost, can be re-joined theoretically by mirror-imaging (fig. 1, reconstructed upper part). As reference points, two woven-in tigers face each other at the upper end of the Lisbon fragment. At the lower end, the carpet extends about 10 cm beyond the tigers' heads. The missing upper end must therefore add at least 10 cm in warp direction, plus the mirror-image of the lower end preserved in The Textile Museum, which measures 81 cm in warp direction. If we add an 81 cm lower end and a 90 cm upper end to the length of the Lisbon carpet fragment, 425 cm, then a

total length of 596 cm would give the dimensions for the original carpet. With its width ca. 3 m, the overall area would be ca. 18 square meters.

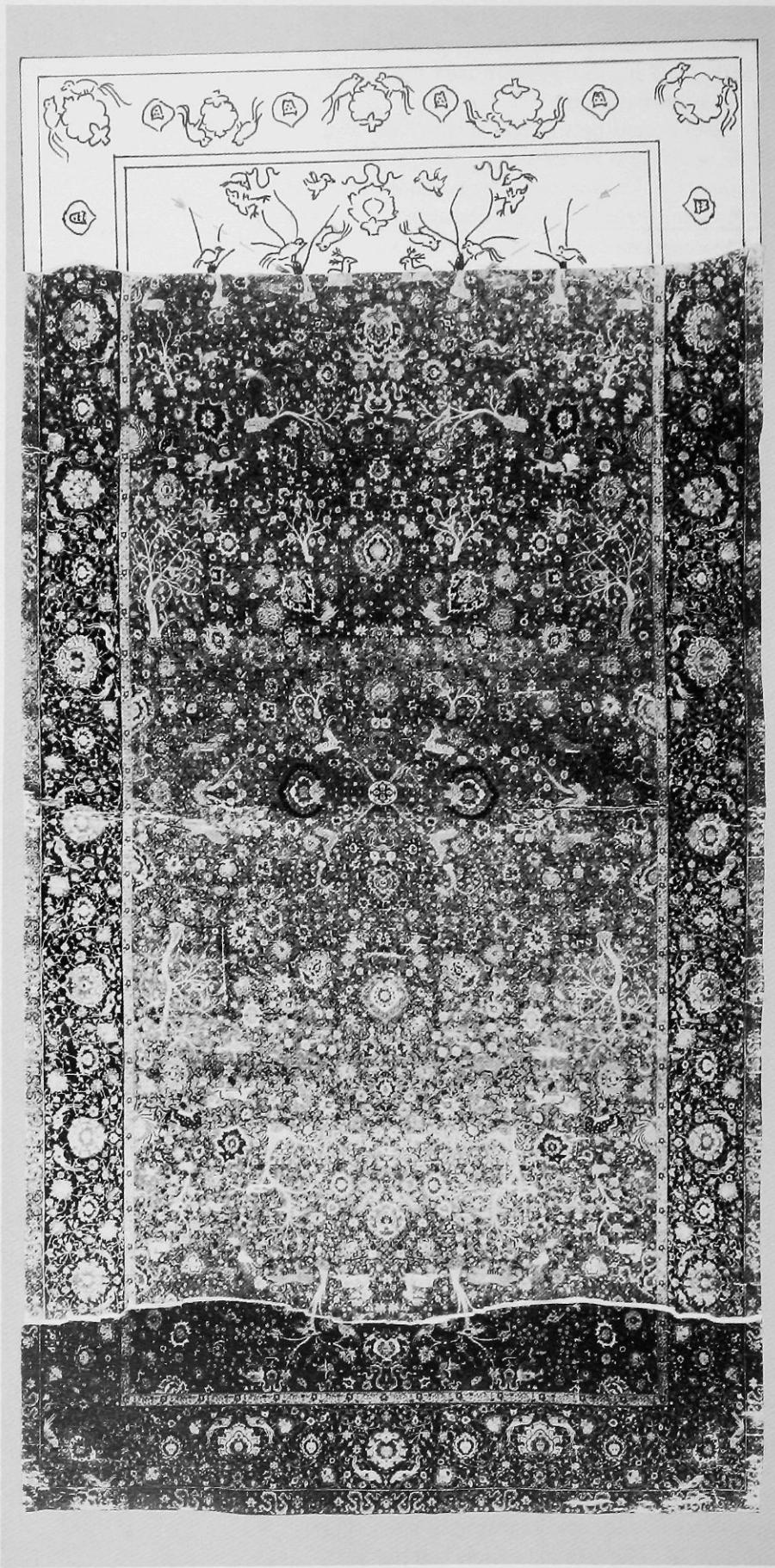
Mentioned by Charles Grant Ellis<sup>3</sup> and depicted in two Portuguese museum publications,<sup>4</sup> the Lisbon fragment has not otherwise been treated in carpet literature.

## Design

### Inner Field

The field has a red ground. The pattern is symmetrically disposed along both vertical and horizontal axes. At the center is a small white circular medallion embellished with a quatrefoil composed of four split arabesques. The field consists of four quarters, each a reflection of the other. Color symmetry is restricted to mirror-imaging on the vertical axis, *i.e.*, the colors correspond in the left and right halves but are different in the lower and upper halves of the design. Although the visual arrangement of motifs in the missing upper end may be reconstructed, the colors remain unknown.

The background of the field shows a dense net of spiraling dark blue scrolls with small leaves, buds and large and small blossoms. Tightly winding cloud bands lie partially over the scroll and partially under the large blossoms. The landscape is dominated by trees of varying sizes with leaves, blossoms and fruit. The trees appear in a pattern layer above the scrolls so that they cover neither the large blossoms nor the cloud bands. They appear to grow out of dotted balls of roots or earth with branches sweeping down over the roots. Numerous animals are depicted on the trees and between them, and on the floral background. Various birds (pheasants, parrots, ducks, cranes), as well as other animals such as ibexes, cows, stags, foxes, dogs, hares, tigers, and lionesses may be recognized. Two types of mythological creatures, derived from Chinese art, have flame-like bands and bushy tails. One is lion-like, the other bull-like (referred to by its Chinese name, *qilin*). Apart from the numerous birds, many with long tails, in each quarter of the carpet there is only one example of each type of animal. The big cats each pursue prey



but actual combat is not depicted. The mythological lion stands with paw raised diagonally behind the *qilin*, which seems to be trying to escape. Trees and animals are positioned in such a way along the vertical axis that with the exception of some birds, treetops and heads are turned toward the ends of the carpet. Along the horizontal axis they change their direction by 180 degrees. Four small trees are positioned diagonally from the central medallion. On the horizontal axis one paired tree is positioned horizontally on each side, treetop pointing inward.

#### Border

The ground color of the main border (fig. 2) is dark green with two vine-scroll systems in yellow and red. The scrolls carry small leaves, blossoms and buds as well as medium-sized and large palmettes and lotus blossoms similar to the scrolls of the background of the field. Alternating in direction above the largest palmettes are two long-tailed birds (pheasants or parrots). Between the large palmettes are smaller lotus blossoms, each bearing the mask-like face of a lion or a dog. Animal faces may also be recognized in some of the large palmettes. The inner borders with yellow background show two narrow wavy scrolls intertwined. One bears small twigs, each with three small blossoms; the other has larger blossoms of various colors. The outer border with red background is decorated with cloud bands in alternating shades of light and dark blue. Between the cloud bands single blossoms are connected by scrolls.

#### Origin

The Lisbon and Washington fragments show several characteristics that distinguish the so-called 'Herat' group of car-

Fig. 1. Tree-and-animal carpet Persia, 16th century  
a. reconstructed upper part.  
b. main central part, Lisbon, Museu Nacional de Arte Antiga, inv. no. 47, 425 cm x 295 cm.  
c. lower part, Washington, D.C., The Textile Museum, R33.4.6, 81 cm x 293 cm.

pets: range of colors on a red field with dark green border and a relatively large amount of yellow; border drawing; shapes of blossoms and cloud bands and details of animal representations; weave structure (see below).

Differences may also be noted. The pattern of the Lisbon-Washington carpet has trees and branching scrolls. Although composition differs from the system of two vine scrolls characteristic of most 'Herat' carpets, there are carpets classified in the 'Herat' group with trees and branching scrolls. These are smaller medallion carpets (Group 3, below). Overall, the similarities between the Lisbon-Washington carpet and the 'Herat' group of carpets outweigh the differences.

The place of manufacture of the 'Herat' carpets is uncertain. 'Herat' carpets with vine scroll patterns are also called "vine-scroll carpets" or "carpets with in-and-out design." Pinpointing their origin is made difficult by the fact that later in India similar carpets were produced. There is evidence that Persian weavers worked in Indian carpet workshops. In some cases a definite attribution to either Persia or India, if possible at all, may depend on color.<sup>5</sup> The term 'Indo-Persian' may be used to describe the great number of somewhat stereotyped specimens. Although some rug experts attribute all 'Indo-Persian' carpets to India, further research is needed to establish either a Persian or an Indian origin.

In the carpet under discussion, the connection with other Safavid carpets is so very close that a Persian origin seems likely. Naming an exact location inside Persia for all those carpets in the 'Herat' group whose Indian origin can be ruled out, is also fraught with difficulties as documentary evidence is lacking. Attribution within Persia has varied during the course of the 20th century. At first these carpets were called "Isfahans." Soon, however, there was a tendency to ascribe them to eastern Persia with its capital at Herat. Two reasons have been cited for an eastern Persian origin: First, the close connection presumed between the pattern of the early vine scroll carpets (app. no. 1a,b) and the style of the school of painting in Herat;<sup>6</sup> second, reports from the beginning of the

17th century<sup>7</sup> which describe Herat as a flourishing town where the most beautiful carpets in Persia were produced.

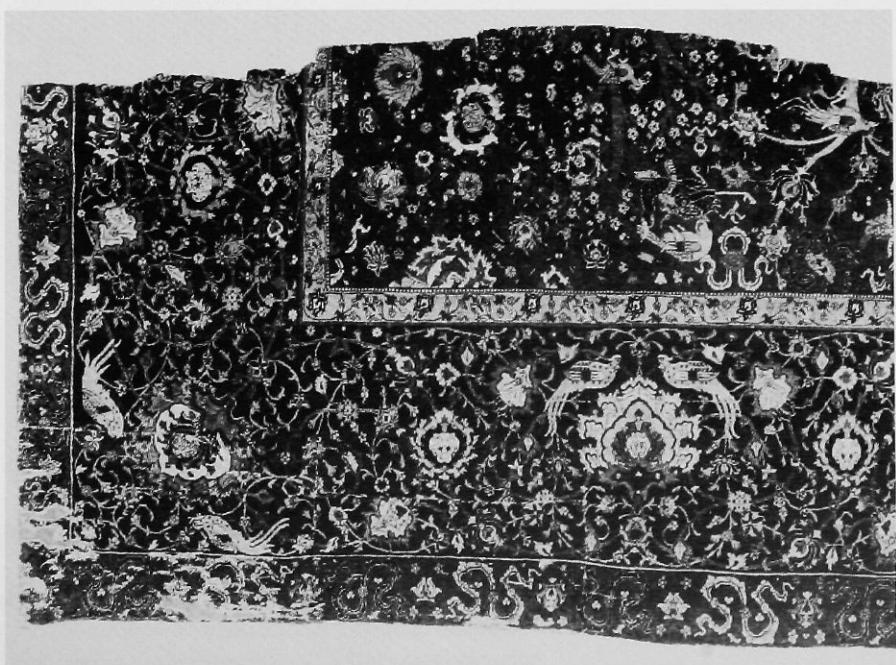
Recently, some authors have again assumed the vine scroll carpets originated in Isfahan. In 1598 Shah 'Abbas made Isfahan the Safavid capital. Imperial carpet workshops there produced the silk metal-brocaded, so-called 'Polonaise' rugs whose production began in Kashan. One argument for localizing the vine scroll carpets in Isfahan is that in the court workshops wool carpets of the highest quality were produced.<sup>8</sup> Early, large-scale vine scroll carpets in court style are thus assumed to be wool examples from Isfahan.

This line of argument, however, is not convincing and has not been generally accepted. Descriptive use of the term 'Herat' seems convenient to retain, but the question remains open as to whether the Lisbon-Washington carpet was produced in Isfahan or elsewhere.

### Dating

The Lisbon-Washington carpet with its numerous animal representations may be compared to several rare examples dealt with in detail in carpet literature that date from the initial period of the 'Herat' group. These large carpets are classified

Fig. 2. Washington, D.C., The Textile Museum, R33.4.6 (fig. 1, lower part, detail).



below in Group 1 (app. nos. 1–15). They have animal scenes designed with detail and harmony by high-ranking master draftsmen. These features, together with a high knot density and often with silk in the foundation, lend them a distinctly court character. Dating them to the golden age of Persian carpet art in the 16th century is generally accepted.<sup>9</sup> This dating is confirmed by representations of 'Herat' carpets in European paintings, the earliest from the last years of the 16th century and showing a relatively simple 'Herat' pattern without animals.<sup>10</sup> The earliest richly designed carpets with animal scenes, of which no representations are known, probably originated several decades earlier in the middle of the 16th century. The 'Emperor Carpets' (app. nos. 1a,b) were assigned by Dimand to the reign of Shah Tamasp (1524–1576).<sup>11</sup>

Depictions of animals were restricted to birds in later examples from the beginning of the 17th century. In the course of the 17th century the designs became more simplified, animals disappeared completely, and the two vine-scroll systems were reduced to one. In their place lancet-shaped leaves covered more of the field and the carpets were smaller with a coarser weave structure. These simpler rugs were certainly produced in places and workshops different from those that produced the early 'Herats' with their court character. As mentioned above, many of them may have been made in India. A great number of 'Herats' were produced up and into the 18th century and many were exported to Europe, indicating the popularity of their patterns.<sup>12</sup> The Lisbon-Washington carpet can be clearly distinguished from these later carpets by weave structure as well as by design.

## Structure

Data for warp, weft and knots are taken from the Washington fragment (Textile Museum R33.4.6).<sup>13</sup>

Warp: light yellow silk, 2S, slightly depressed

Weft: undyed cotton, 2Z, 3 weft shoots between each row of knots

Knots: wool, 2Z, asymmetrical, open left,

h: 81/dm, w: 76/dm; 6400 knots/sqdm  
Colors: (eleven) carmine red, dark green, medium green, yellow, bright red, orange brown, ivory, beige, gray, dark blue, light blue.

The structure of the 'Herat' carpets is not uniform, nor can it be clearly distinguished from that of other carpet genres. Compared to the fine Lisbon-Washington carpet, more simply designed 'Herats' of the later 17th and 18th centuries have a coarser structure, usually with cotton for the foundation (sometimes wool) with knot densities of 2000 knots/sqdm, and infrequently over 3000 knots/sqdm. The chief structural features of the Lisbon-Washington carpet include the silk warp, three-fold cotton weft and high knot density. These features are not rare among the early, finely designed 'Herats' from the 16th and early 17th century. Published comparisons may offer clarification.<sup>14</sup>

Other carpets with slight variations in structure are more numerous. For example, silk can be found in another position in the foundation, or the three wefts are not all made of the same material.<sup>15</sup>

The lack of structural uniformity of the early 'Herats' makes it difficult to distinguish them by weave structure, although they are distinct from carpets of the so-called 'vase-technique'.<sup>16</sup> Weave structures found in the 'Herat' examples cited above also occur in carpets attributed to northwestern Persia. The famous Ardebil pair<sup>17</sup>, supposed to have originated in northwestern Persia, has silk as the foundation and a high knot density (6400 knots/sqdm in Los Angeles and ca. 5000 knots/sqdm in London). The majority of classical northwestern Persian carpets, however, have cotton as foundation (sometimes with wool) and a lower knot density. Structures such as those of the early 'Herats' are to be found also in Kashan and in India. In any case, the weave structure of the Lisbon-Washington carpet is within the broad range of the early 'Herat' carpets.

## Connections with other Persian Animal Carpets

No other example of a large carpet in the 'Herat' group with tree and animal design,

but without a large central medallion, is known to exist. There are, however, other carpet groups with which the Lisbon-Washington carpet has a connection. These related carpets can be divided into five groups, four of which are sub-groups of the large 'Herat' group. In the fifth group carpets from other Persian regions are classified. The dates of the five groups span the period from the early 16th century to the middle of the 17th century.<sup>18</sup> In Groups 2, 3, and 5, we find carpets with a large central medallion. The carpets of Groups 3 and 4 are smaller in size.

#### Group 1

This group (app. nos. 1–15) (fig. 3) consists of early vine scroll carpets with animals but without trees.

#### Group 2

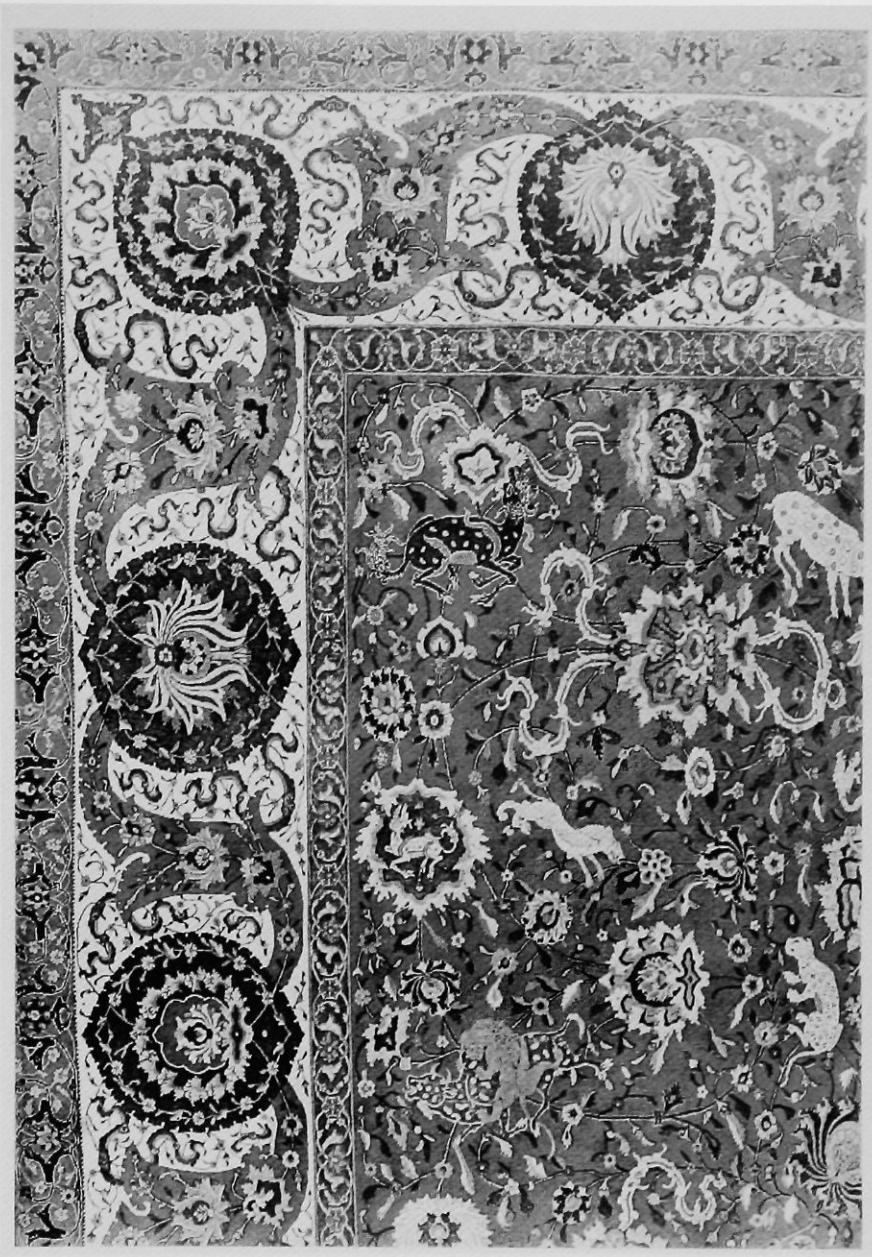
Only a few from this group of large 'Herat' carpets with central medallion (app. nos. 16–20) (fig. 4) are preserved. If they show trees, these appear only in the central medallion, but not between the animals on the background. The carpets of Group 2 form the link between the Lisbon-Washington carpet and Group 3. They have large size in common with the Lisbon-Washington carpet and a large central medallion in common with the smaller-sized Group 3, whereas the Lisbon-Washington carpet, like Group 3, shows the tree design, but bears no large central medallion.

#### Group 3

These are usually somewhat smaller medallion carpets presumably made in the first half of the 17th century (app. nos. 21–29) (fig. 5) and all portraying trees; neither they nor the Lisbon-Washington carpet include cypresses. In half the examples preserved (nos. 21–24) the trees appear only in the medallion; in the others the trees are an essential component of the basic design. Their drawing is of poorer quality than those that are larger and presumably older (Groups 1, 2, 5 and the Lisbon-Washington carpet). The scroll systems and cloud bands have become straight lines.

#### Group 4

This group (app. nos. 30–32) (fig. 6) con-



tains smaller animal carpets of the 'Herat' group which do not have a central medallion. They show an ascending pattern with all motifs facing the same direction. All carpets have animals; app. no. 30 also contains trees.

#### Origin of Groups 1–4

All carpets show typical traits of the 'Herat' group of carpets: color range, spiral scrolls, blossom shapes, animals, drawing, border design. They probably all originate in the same area in Persia but come from different workshops.<sup>19</sup> Despite affinities among the

Fig. 3. Vine-scroll-and-animal carpet (fragment), Persia, 16th century, Vienna, Österreichisches Museum für angewandte Kunst, inv. no. 0.311, 183 cm x 126 cm (app. no. 7).



four groups, differences are clear. The carpets in Groups 2 and 3 have medallions. The simpler character of Groups 3 and 4 differentiates them from the court character of Groups 1 and 2, as well as from the Lisbon-Washington carpet. The workshops of these groups certainly had close contact with each other, more than with those of the so-called 'Polonaise' carpets in Isfahan, which differ in both style and structure from each of the above-named groups.

#### Group 5

This group (app. nos. 33–41) (fig. 7) covers carpets which come from other areas in Persia. Their origins are also sometimes difficult to determine. For most of the carpets, a provenance of northwestern Persia or Tabriz is given, for some, Kirman.<sup>20</sup> Their tree and animal design links them to the other groups. These are the large and famous medallion carpets which Pope called Paradise Park carpets.<sup>21</sup> The carpets of Group 5 share some design elements of the 'Herat' group such as the palmettes, birds, and other animals, as well as the designs of guard stripes.

#### Salting Group

Carpets in the so-called Salting group<sup>22</sup> demonstrate affinities with carpets of the five groups listed here. Since their relation to the 'Herat' group is slight and the localizing and dating are controversial, this group is not be discussed here.<sup>23</sup> It reveals features that appear in Turkish carpets of the 19th century which rely upon the composition and style of Persian carpets of the 16th and 17th centuries.<sup>24</sup> In recent years articles have been published in which some specimens from the Salting group (including a number of prayer rugs in the Topkapi Museum, Istanbul) are considered to be classical Persian.<sup>25</sup> Final clarification of the problematic Salting group carpets

Fig. 4. Vine-scroll-and-animal carpet with central medallion, Persia, first half 17th century, Washington, D.C., National Gallery of Art, inv. no. 1942.9.477 (C-330), 432 cm x 200 cm (app. no. 18).

has yet to be made. The reason for mentioning this group is to point out the resemblance between several Salting medallion carpets and 'Herat' medallion carpets. For example, the Salting carpet in the Victoria and Albert Museum, cited above (note 19), has palmettes, cloud bands, and birds in the field, similar to the 'Herat' carpets.

#### Palmette and Bird Borders

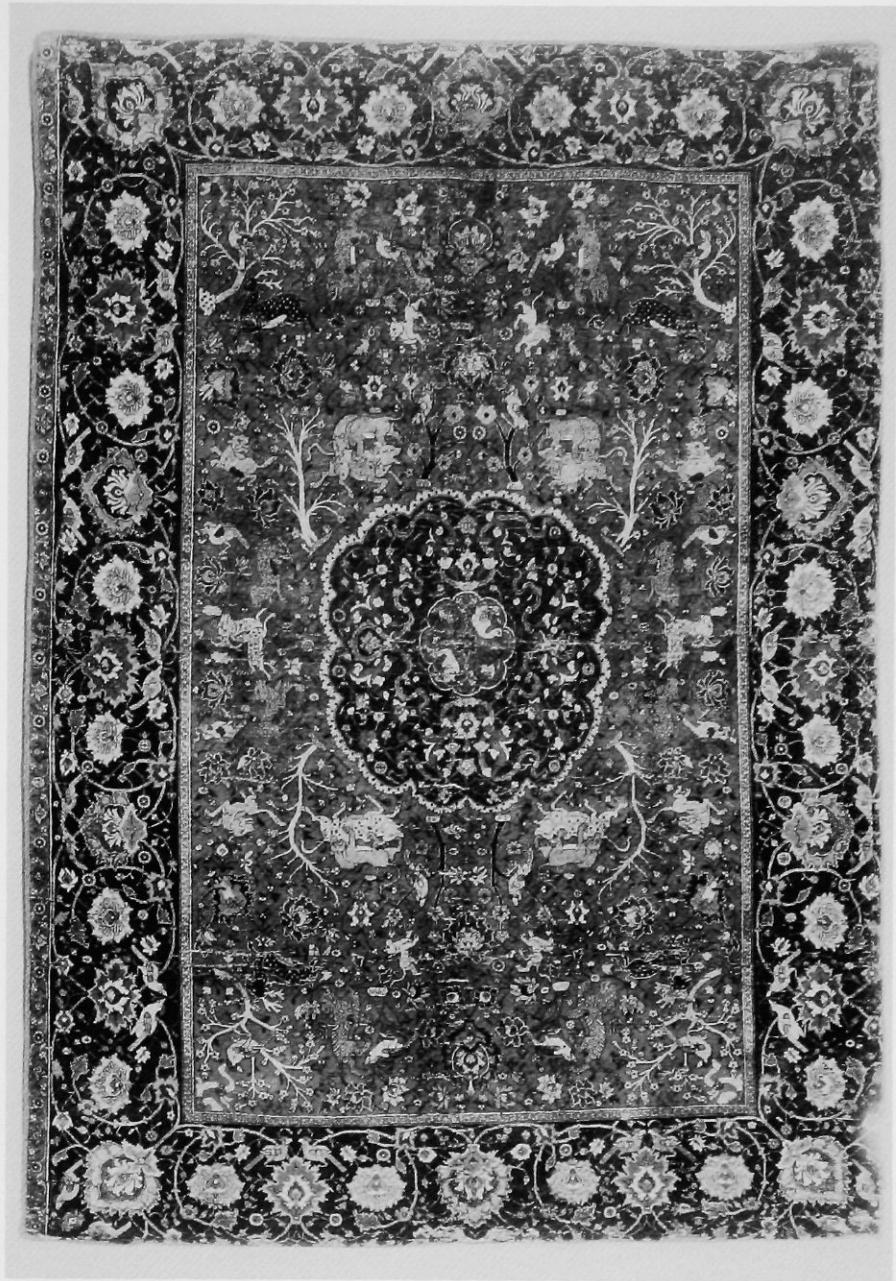
The richly designed main border of the Lisbon-Washington carpet is closely related to the border of other 'Herat' carpets<sup>26</sup> although distinguished by the presence of masks.<sup>27</sup> The long-tailed birds (pheasants?) in the border and field of the Lisbon-Washington carpet are seen in a different format on borders of three small silk Kashan carpets.<sup>28</sup>

#### The Significance of the Lisbon-Washington Carpet

The Lisbon-Washington carpet with its tree-and-animal design provides the key to understanding medallion carpets in Group 3. Since these medallion carpets were formerly thought to have originated in northwestern Persia with 'Herat' influence (see above, note 19), and a different opinion gained ground slowly, the existence of the Lisbon-Washington carpet is important for confirming the affiliation of these medallion carpets with the 'Herat' group. The Lisbon-Washington carpet indicates that the tree-and-animal design belongs to the pattern stock of the 'Herat' group. To this design was added a medallion only in the carpets of Group 3.

In Persia the Paradise Park design with trees and animals was well-known. Among the carpets of Group 5 some specimens come from northwestern Persia, others from southern Persia.<sup>29</sup> The Lisbon-Washington carpet is proof of the existence of the Paradise Park design wherever the 'Herat' carpets were knotted,<sup>30</sup> and this design persisted into the 17th century, as seen in the smaller medallion carpets of Group 3.

The significance of the small carpet fragment in The Textile Museum, R33.4.6, thus becomes evident when considered along with the main part to which it



belongs, now in the Museu Nacional de Arte Antiga in Lisbon. This carpet belongs to the large main group of so-called Persian 'Herat' carpets but is distinguished from this group by the presence of both trees and animals distributed throughout the field without interruption by a large central medallion. The fineness of drawing and the liveliness of the animals, as well as its weave structure, show a close relationship to the Safavid vine-scroll-and-animal carpets from the middle of the 16th century. Although the possibility of a workshop in the important cultural

Fig. 5. Small tree-and-animal carpet with central medallion, Persia, first half 17th century, Lyon, Musée Historique des Tissus, inv. no. 23.921, 221 cm x 160 cm (app. no. 28).



Fig. 6. Animal carpet with directional pattern, Persia, early 17th century (Sotheby's New York, December 11, 1991, Lot 56), 224 cm x 165 cm (app. no. 32).

center of Herat cannot be excluded, this carpet was likely produced in the Safavid capital at Isfahan, but sources are lacking for a definite attribution.

## Appendix

### Group 1

#### Early animal carpets with in-and-out-design

1. The so-called Emperor Carpets
  - a. Vienna, Österreichisches Museum für angewandte Kunst, inv. no. T.8334 (Sarre and Trenkwald 1926, vol. 1, pl. 6-8).

b. New York, The Metropolitan Museum of Art, formerly Rockefeller McCormick collection, inv. no. 43.121.1 (Dimand and Mailey 1973, fig. 76, pp. 140-141). Same pattern as app. no. 1a.

2. Vienna, Österreichisches Museum für angewandte Kunst, inv. no. T.8376 (Sarre and Trenkwald 1926, vol. 1, pl. 9). Compared with app. no. 1a, not quite as splendid; although intact, there are numerous seams.

All other pieces (app. nos. 3-15) of this group are fragments; app. nos. 3-6 may be from the same carpet, a counterpart to app. no. 2 (Erdmann 1950, no. 70, p. 63).

3. Paris, Musée des Arts Décoratifs, inv. no. D.19417 (Koechlin and Migeon 1928, pl. 85a).

4. London, Victoria and Albert Museum, inv. no. T 601.1894 (Kendrick 1915, pl. 4). The outer border, although more complex in design, offers a parallel to the inner border of the Lisbon-Washington fragment (fig. 1).

#### 5. Two fragments:

a. Turin, Museo Civico di Numismatica, Etnografia, Arti Orientali, inv. no. 551, formerly 2910 (Viale and Viale 1952, pl. 128; Erdmann 1941, fig. 5).

b. German private collection, mirror image of app. no. 5a (Calmeyer and Zick-Nissen 1972, no. 191).

6. Formerly Yerkes collection (Mumford 1910, pl. 3). The border is sewn on (cf. outer border of app. no. 4).

7. Vienna, Österreichisches Museum für angewandte Kunst, inv. no. 0.311 (Sarre and Trenkwald 1926, vol. 1, pl. 10) (fig. 3).

8. Reichenberg (Liberec), Gewerbemuseum Nordböhmen, two fragments (Pope 1939, vol. 6, pl. 1176). Similar to app. no. 7.

9. London, Textile Gallery (Frances 1986, no. 9).

10. E. James Foundation, England (Frances 1986).

11. Two fragments of what was originally one carpet:

1. Hamburg, Museum für Kunst und Gewerbe, inv. no. 1967.123 (Meister and Azadi 1971, no. 1).

2. German private collection, (Pope 1939, vol. 6, pl. 1175).

12. Two fragments of what was originally one carpet:

1. Paris, Musée des Arts Décoratifs, inv. no. 4457 (Brunhammer 1957, pl. 4).

2. London, Victoria and Albert Museum, inv. no. unrecorded, photograph no. 4508 (Frances 1986).

13. London, Victoria and Albert Museum, inv. no. T38.1892 (Whiting 1978, p. 43, fig. 1).

14. London, Victoria and Albert Museum, inv. no. 670-1896 (Erdmann 1941, fig. 17). Probably a part of lower half of app. no. 15.

15. Washington, D.C., The Textile Museum R33.4.11, reconstructed from parts formerly Demotte collection, Paris (Pope 1926, no. 12) and Bernheimer collection, Munich (Sarre and Martin 1912, vol. 4, no. 22). Only the upper righthand part is original; remainder was repaired between 1912-1926 using symmetrical knots.

#### Group 2

#### Large medallion carpets with animals

16. Sotheby's London, October 12, 1982, Lot 47. The field has corner quarter medallions and a central medallion with trees.

17. New York, The Metropolitan Museum of Art, inv. no. 1978.550, formerly Benguiat and Selye collection (*Hali*, vol. 3, no. 1, p. 15, fig. 9). There are animals but no trees in the three-carrouche border and in the medallion pendants.

18. Washington, D.C., National Gallery of Art, inv. no. 1942.9.477 (C-330), formerly Widener collection (Pope 1939, vol. 6, pl. 1148). There are neither trees nor cloud bands; clear spiral vines have blossoms and animals, but no combat (fig. 4).

Fig. 7. Paradise Park (so-called Coronation) carpet, northwestern Persia, early 16th century, Los Angeles County Museum of Art, inv. no. 49.8, Gift of J. Paul Getty, 701 cm x 366 cm (app. no. 37a).



19. Paris, private collection, formerly French and Co. (Pope 1926, no. 11). This group of fragments is sewn together: part of the central medallion is used as a corner piece, three other corner pieces, in medallions trees and birds, in the field birds. It is perhaps a Salting group carpet (note 22).
20. Cincinnati Art Museum, inv. no. 1982.117, fragment (*Hali*, issue 58, p. 77, detail only). Since only a small portion is left from the medallion, its belonging to the 'Herat' group is uncertain (perhaps Kashan or Indian?); the structure is also unusual in the corner pieces, birds in the field and peacocks in the pendant.
- Group 3**  
**Smaller medallion carpets with animals**  
 In app. nos. 21–24, trees appear only in the medallion; in app. nos. 27–28, trees appear in the base pattern. In the whole group there are few cloud bands.
21. New York, The Metropolitan Museum of Art, inv. no. 10.61.1 (Dimand and Mailey 1973, fig. 66; Pope 1939, vol. 6, pl. 1149). Dimand and Pope each call it 'Tabriz', origin uncertain. It has bast in its foundation (personal communication, C.G. Ellis). The red field and yellow border with a pattern similar to app. nos. 2–9, with trees only in the corner quarters, no cloud bands.
22. Lyon, Musée Historique des Tissus, inv. no. 25.700 (Pope 1939, vol 6, pl. 1151; Bennett 1987, p. 41, pl. 2). The red field and border may be compared with app. no. 21, but the field is dark blue and without cloud bands or metallic brocading.
23. New York, The Metropolitan Museum of Art, inv. nos. 17.120.127 and 08.100, a pair (Dimand and Mailey 1973, fig. 71). The red field with dark green border is similar to the Lisbon fragment (fig. 1, central part); this also has guard stripes similar to the inner border in the Lisbon-Washington fragment, with no cloud bands.
24. Cambridge, Massachusetts, Arthur M. Sackler Museum, Harvard University, formerly McMullan collection (McMullan 1965, no. 15). The red field with dark green border is similar to the Lisbon-Washington fragment; this has four trees in the medallion, diagonally placed and facing away from the inner medallion. Similar also to app. nos. 16 and 24, no cloud bands.
25. New York, The Metropolitan Museum of Art, inv. no. 17.120.142 (Dimand and Mailey 1973, fig. 110). Red field with dark green three-cartouche border, like app. nos. 16 and 24; many trees in the field.
26. Amsterdam, Rijksmuseum, inv. no. 11714 (London 1931, no. 217). The dark green field and red border with palmettes, cloud bands and birds, and the outer border invite comparison with the Lisbon-Washington fragment, but there are no cloud bands in the field.
27. A carpet pair, only one example is complete:  
 a. The Textile Gallery, London, formerly Rothschild collection (Frances 1984, figs. 4, 5; *Hali*, issue 61, p. 73). The red field and green border relate to app. nos. 2–9; the outer border is similar to the inner border of the Lisbon-Washington fragment (fig. 1). This carpet's comparatively large size (480 cm x 234 cm), makes it similar to the carpets of Group 2, but stylistically it is closer to Group 3.  
 b.1. Washington, D.C., The Textile Museum R33.4.4 (Ellis 1965, fig. 6).  
 b.2. Boston, Museum of Fine Arts, inv. no. 06.6 (Erdmann 1941, fig. 5).
28. Lyon, Musée Historique des Tissus, inv. no. 23.921 (Pope 1939, vol 6, pl. 1150; Bennett 1987, p. 42, pl. 3). The red field with dark green main border (fig. 5) is similar to figure 1.
29. Formerly Jansen collection (Corbin 1938, p. 189, no. 185). A medallion carpet with animals; birds in border.
- Group 4**  
**Smaller carpets with a directional pattern**  
 30. Teheran, Carpet Museum, inv. no. 47, formerly John D. Rockefeller Jr. collection (Sarre and Trenkwald 1926, vol. 2, pl. 28). Central field shows trees including cypresses; main border is similar to the Lisbon-Washington fragment but with only one bird over each palmette.
31. Teheran, Carpet Museum, inv. no. 87 (Pope 1939, vol. 6, pls. 1182, 1183), without trees.
32. Formerly Price collection (Bier 1987, no. 46; Sotheby's New York, December 11, 1991, Lot 56), without trees (fig. 6).
- Group 5**  
**Paradise Park carpets**  
 In the whole group, seldom vines and cloud bands.
33. Two parts of the same carpet. Tabriz, middle 16th century:  
 1. Paris, Musée des Arts Décoratifs, inv. no. D 10614, lower half (Pope 1939, vol 6, pl. 1140; Erdmann 1970, fig. 103 [German ed., pl. 208]).  
 2. Cracow, Cathedral, upper half.

34. Vienna, Prinz Schwarzenberg (Pope 1939, vol. 6, pl. 1203; Schlosser 1960, fig. 38). Northwestern Persia or Kashan, first half 16th century; dark blue field and white/red main border, but the outer border relates to the inner border of the Lisbon fragment.
35. St. Petersburg, Hermitage, inv. no. VT-994 (Pope 1939, vol. 6, pl. 1204, above). Kirman?, end of 16th century; related the 'Vase' carpets and app. no. 34.
36. Berlin, Museum für Islamisches Kunst, inv. no. I 7/56 (Spuhler 1987, no. 78; Pope 1939, vol. 6, pl. 1204, below). Kirman?, Sanguszko-group?, end of 16th century; this carpet has a red field and dark blue border, and corner quarter medallions. Although similar to app. nos. 34 and 35, it has no trees; the vines with blossoms, and the weave structure relate it to 'Vase' carpets.
37. A carpet pair, northwestern Persia, beginning of the 16th century. The light color of the field relates it to app. nos. 33 and 38; it has a dark blue border and corner quarters:
- a. Los Angeles County Museum of Art, inv. no. 49.8, Gift of J. Paul Getty, 701 cm x 366 cm (Pope 1939, vol. 6, pl. 1128; Dimand and Mailey 1973, fig. 65) (fig. 7).
  - b. Berlin, Museum für Islamisches Kunst, inv. no. I, 1 partly destroyed in World War II, both ends missing before destruction, 604 cm x 365 cm (Erdmann 1970, fig. 151 [German ed., pl. 77]). The original must have been nearly 8 m in length.
38. Several fragments, probably from several carpets. Persia, second half 16th century. The light color of the field relates these fragments to app. nos. 33 and 37; the corner quarters, three-cartouches border are like app. nos. 16, 17, and 25. The edges of the border are similar to app. no. 33, rich in figural and pictorial presentations in medallions and corner quarter medallions:
- a. Formerly Budapest, Baron Hatvany, lost in World War II, 2 parts:
    - 1. from the center
    - 2. from the border (Pope 1939, vol. 6, pl. 1141, without border; Ellis 1965, fig. 8, with border).
  - b. New York, Brooklyn Museum, inv. no. 36.213 a-g, seven fragments sewn together, probably from two carpets (Bennett 1987, p. 40, fig. 1).
  - c. Lyon, Musée Historique des Tissus, inv. no. 26.799, border fragment (Bennett 1987, p. 40, pl. 1).
  - d. Switzerland, Wher collection, small border fragment.
39. Philadelphia Museum of Art, inv. no. 55-65-26, fragment (Ellis 1988, no. 48; Pope 1939, vol. 6, pl. 1129). Kirman?, its structure is like that of 'Vase' carpets, cf. app. no. 35. It has a dark brown field and a red/orange border; the second inner border is like the Lisbon inner border. Animals and trees in the field are also similar to the Lisbon fragment. There are also a few cloud bands.
40. Paris, Louvre, inv. no. 125 (Pope 1939, vol. 6, pl. 1127). Northwestern Persia, end of 16th century; the outer border is similar to the Lisbon fragment.
41. Milan, Museo Poldi Pezzoli, inv. no. 424. (Pope 1939, vol. 6, pl. 1154). Tabriz? second half of 16th century? or Salting group? There is metallic brocading, a red field and light green border with a pattern similar to app. nos. 2-9, but in the field there are angels as well as animals.

## About the author

Christine Klose was born in Berlin and studied physics at Berlin University, receiving her diploma in 1949. Her parents were historians of Far Eastern art. She began to study Oriental carpets in the 1970's; her principal interest has been the historical development of carpet designs. She has published many articles and presented papers at national and international conferences.

## Notes

1. Textile Museum R33.4.6. Ellis 1985, p. 70, fig. 14, refers to this piece, saying that "The principal fragment apparently is in a Lisbon museum" and as an "excellent fragment from the Herat area." Pope 1926 is doubtful about the Herat classification and tends toward Kashan ("It so far surpasses the usual type"). He is of the opinion, however, that "So much glorious work was produced in Herat, it is imprudent to set any limits to the skill of its weavers. But wherever woven, it is a document so eloquent, so charged with inspiration, so expressive of perfect knowledge, sure and mature, that this piece alone is sufficient to substantiate any claims that have been made that the finest carpets should rank as works of art."
2. The carpet was obviously too long for use in the monastery and was shortened at both ends with a double arch-shaped cut at the

lower end. A probable explanation for the arch-shaped cuts is that the carpet was used for a correspondingly-shaped space, such as altar steps.

3. Ellis 1965, p. 56, n. 47, considered the Washington and the Lisbon fragments separately.

4. Museu nacional de arte antiga 1937, fig. 69 (detail); Museu nacional de arte antiga 1977, complete fragment in color.

5. Whiting 1978, p. 43, analyzes three Persian carpets and one Indian carpet. It is necessary to analyze additional examples.

6. Dimand and Mailey 1973, p. 54.

7. Martin 1908, p. 69.

8. Spuhler 1987, p. 82.

9. The authors quoted in Appendix nos. 1–15 give a 16th century date, as also Pope 1939, pl. 1174; Denny 1979, fig. 15/16; King 1983, no. 74.

10. Ydema 1991, cat. no. 343, p. 154.

11. Dimand and Mailey 1973, p. 53.

12. Ydema 1991 catalogues more than 200 Dutch representations of 'Herat' carpets.

13. I am grateful to Charles Grant Ellis for providing this information.

14. Textile Museum R33.4.7 (Ellis 1965, fig. 9); Textile Museum R33.4.12 (Ellis 1965, fig. 13); Sotheby's, New York, December 10, 1992, lot 54 (formerly Henry Ford Museum), ca. 5200 knots/sqdm; Wher collection, Switzerland (Herrmann 1988, no. 3), 3500 knots/sqdm; Sotheby's, New York, December 11, 1991, lot 88, 4320 knots/sqdm.

15. 'Emperor carpets' (app. nos. 1a,b) with silk in the warp at both ends of the carpet (approximately 5 cm on the inside of the carpet and the fringes) otherwise cotton warps, three wefts of light brown silk; knot density is ca. 5000 knots/sqdm; two fragments (originally of one carpet) Textile Museum R33.4.9 and R33.4.15 (Ellis 1965, figs. 1, 2), with knot density ca. 7000 knots/sqdm; Textile Museum R33.4.8 (Ellis 1965, fig. 5), with foundation completely in silk; Textile Museum R33.4.4 (app. no. 27, b1) and two fragments (app. no. 11) with silk warps (of the three wefts, middle weft is cotton, first and third wefts are wool); Lyon carpet (app. no. 28,

fig. 5) with a wool warp, first and third wefts cotton, middle weft silk, 5250 knots/sqdm; narrow fragment in the Museum für Islamische Kunst, Berlin, inv. no. I 61/65 (Spuhler 1987, no. 82) with silk warp, first and third wefts cotton, middle weft silk, ca. 6500 knots/sqdm; app. no. 15, with first and third wefts silk, middle weft cotton, 3300 knots/sqdm.

16. The structure of the so-called 'Vase'-carpets is described in Beattie 1976, p. 14.

17. London, Victoria and Albert Museum, inv. no. 272–1893, and Los Angeles County Museum of Art, inv. no. 53.50.2.

18. As discussed above, the earliest 'Herats' were produced during the reign of Shah Tamasp. Carpet types distinguishing the other groups do not yet have the stereotyped features of later carpets from the second half of the 17th century. Thus, we may suppose the existence of the five groups between the middle of the 16th to the middle of the 17th century. This dating agrees with those cited in the Appendix.

19. Groups 2, 3, and 4 were previously considered 'Herats', or were classed as northwestern Persian under 'Herat' influence. For example, Pope 1939, pl. 1150, classifies app. no. 28 as Tabriz. Dimand and Mailey 1973 suggest that app. no. 21 is probably 'Tabriz', app. no. 25 is "probably northwestern Persia", and the pair, app. no. 23, is "probably Herat." Erdmann 1941, p. 163, calls these medallion carpets northwestern Persian although he does not exclude a Herat classification. Ranchet 1977, p. 50, writes that the combination of northwestern with eastern Persian features makes a definite classification difficult. She does classify the small medallion carpet (app. no. 28) as northwestern Persian (Tabriz?).

20. Pope 1939, vol. 3, pp. 2263–2265.

21. Besides these Paradise Park carpets there are some medallion carpets which demonstrate a connection with the 'Herat' carpets, but which differentiate themselves from the latter by northwestern Persian features:

1. Schiff animal carpet (Sotheby's London, October 12, 1982, Lot 27). Small bushes only in the medallion between angels, corner quarters, field with red background, border with yellow ground with 'Herat' pattern of palmettes and wide arabesque bands (similar to app. no. 2).

2. Fragment in the Bargello Museum, Florence. No trees, vine scrolls with flowers, cloud bands and animals (Erdmann 1941, fig.

14; Viale-Ferrero 1971, fig. 6).

3. Philadelphia Museum of Art (Ellis 1988, no. 49). Corner quarters, field with red ground, no trees. Border similar to the three-cartouches border of the 'Herats' (app. nos. 16, 17, 25, 38). Carpet types that exhibit less influence of the 'Herat' design are not considered here: tree-and-animal carpets of other origins (e.g. Sanguszko group), those with ascending tree and animal patterns (e.g. Berlin inv. no. 88.330 [Pope 1939, pl. 1213], for the most part destroyed in World War II), later derivatives in northern Persia (e.g. Erdmann 1950, nos. 101, 102), and the "naïve" animal-and-tree carpets (Bennett 1994).

22. The Salting group is named after the most well-known specimen from the Salting collection (London, Victoria and Albert Museum, inv. no. T 402 1910).

23. It is possible that app. nos. 19, 22, and 41, and probably nos. 1 and 2 in note 21 belong to the Salting group.

24. Erdmann 1941, pp. 161, 164–168 and Erdmann 1970, pp. 76–80 [German ed., pp. 162–67].

25. Franses 1986, pp. 16–19, no. 8; Franses and Bennett 1988, pp. 20–25; Böhmer and Enez 1988, pp. 11–12; Enez 1994.

26. The greatest similarity with the Lisbon border is demonstrated by the borders of three carpets belonging to a small 'Herat' subgroup. In these the spirals of the second system terminate in sweeping split arabesques:

Formerly in the Sangiori collection, Rome, now in a private collection in Genoa (Pope 1939, vol. 6, pl. 1179), perhaps Indian; Formerly Duveen collection, now Simon collection (Pope 1926, no. 15), perhaps Indian; Fragment in the

Museum des Kunsthandschwerks, Leipzig (Grassi Museum) (Neugebauer and Troll 1930, pl. 10). Further examples with bird border: Hamburg-Engelhorn fragments, app. no. 11; Small fragment in the Victoria and Albert Museum, London (Whiting 1978, p. 43, fig. 2); Lugano-Castagnola, Thyssen-Bornemisza collection (Beattie 1972, no. 4), perhaps Indian. These carpets 1–6 have the shape of the Lisbon inner border as well as the accompanying stripe. See also app. nos. 23, 24, 28, 30. App. no. 33 in Group 5 has a similar border.

27. On several 'Herat' carpets in Group 1 (Emperor carpets and others) and in Group 3 (app. nos. 27a, 28) animal faces are found in flowers and pendants, animal heads also in the borders. Animal masks are frequent on numerous Safavid carpets from northwestern Persia, e.g. Chelsea carpet Victoria and Albert Museum, London (outer guard stripe), Kashan; Peytel silk Kashan, Louvre, Paris; and in the Sanguszko group (Dimand and Mailey 1973, fig. 72, outer guard stripe).

28. Erdmann 1957, pp. 571–589 lists Gulbenkian Foundation, Lisbon, inv. no. 100, formerly in Berlin (with medallion); New York, The Metropolitan Museum of Art, inv. no. 14.40.721 (Dimand and Mailey 1973, fig. 79, pp. 142–143), with animals; Detroit Institute of Arts, inv. no. 25.23, Erdmann 1970, fig. 92 (German ed., pl. 182).

29. Further examples of a tree-and-animal design on south Persian carpets are the early garden carpets (Figdor, Jaipur, and Wagner garden carpets).

30. Similar decoration with trees and animals is seen on book covers from Shiraz and Herat in the late 15th and 16th centuries, executed in stamped leather or painted lacquer (Haldane 1983, p. 92, n. 90; Enderlein 1990).

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